



Atty. Dkt. No. 017344-0326

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Kinji KAYANUMA  
Title: DATA MODULATION METHOD  
AND APPARATUS  
Appl. No.: 10/642,749  
Filing Date: 08/19/2003  
Examiner: Ghayour, Mohammed H.  
Art Unit: 2631

<p><b>CERTIFICATE OF MAILING</b> I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below.</p> <p><u>Christine Flores</u> (Printed Name)</p> <p><u>Christine Flores</u> (Signature)</p> <p><u>9/29/05</u> (Date of Deposit)</p>
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**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicant in order to comply with Applicant's duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

**TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

**RELEVANCE OF EACH DOCUMENT**

The Examiner in the corresponding Japanese application has stated:

- Claims 1 through 5, 10, 12 through 15, and 17
- Cited Literature 1
- Remarks

In Cited Example 1, an encoding method and encoding device in a variable length RLL encoder are described that have a table corresponding to the constraint length (corresponding to a primary conversion table and a secondary conversion table); set the bit (Y) that performs DSV control in the code word while assigning the correspondence of the data word to the code word so that the channel bit "1" does not repeat consecutively when code terms have been combined with each other; and set Y to 0 or 1 so that the DSV approaches 0.

Next, what is to be employed as the constraint length and code term of the aforementioned RLL is something that can be determined as appropriate by a person skilled in the art according to the (d, k) requirements.

Thus, the inventions corresponding to Claims 1 through 5, 10, 12 through 15, and 17 of the present application could easily be conceived by a person skilled in the art based on the inventions described in Cited Example 1.

- Claims 6 through 9, 11, 16, 18
- Cited Literature 1, 2

- Remarks

Cited Example 2 describes the use of multiple synchronous patterns to detect the state of continual minimum run, to substitute the code word so that the code word does not repeat consecutively in such a case, and to break a maximum run, and deriving the structure of the inventions corresponding to Claims 6 through 9, 11, 16, and 18 of the present application is something that could easily be conceived by a person skilled in the art by applying the art described in the aforementioned Cited Example 2 to the invention described in Cited Example 1.

If new reasons for rejection are discovered, notification will be made of the reasons for rejection.

## List of Cited Literature

1. Japanese Unexamined Patent Application Publication H7-240691
2. Japanese Unexamined Patent Application Publication 2000-68846

## Record of Prior Art Literature Search Results

- Fields searched IPC 7th Edition H03M 3/00–11/00  
G11B 20/14, 341
- Prior art literature Japanese Unexamined Patent  
Application Publication H9-162744

Japanese Unexamined Patent  
Application Publication H11-177431

This Record of Prior Art Literature Search Results does not constitute a reason for rejection.

An English translation of the foreign-language documents is not readily available. However, the absence of such translation does not relieve the PTO from its duty to consider the submitted foreign language documents (37 CFR §1.98 and MPEP §609).

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date August 29, 2005

By 

FOLEY & LARDNER LLP  
Customer Number: 22428  
Telephone: (202) 672-5407  
Facsimile: (202) 672-5399

David A. Blumenthal  
Attorney for Applicant  
Registration No. 26,257

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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: August 29, 2005 (Use as many sheets as necessary)		<b>Complete if Known</b>	
Application Number		10/642,749	
Filing Date		08/19/2003	
First Named Inventor		Kinji KAYANUMA	
Group Art Unit		2631	
Examiner Name		Ghayour, Mohammed H.	
Attorney Docket Number		017344-0326	

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	US2005/0156760	A1	Nakagawa et al.	07/21/2005	
	A2	US2005/0162291	A1	Nakagawa et al.	07/28/2005	
	A3	US2005/0162290	A1	Nakagawa et al.	07/28/2005	
	A4	6,879,637	B1	Nakagawa et al.	04/12/2005	
	A5	5,917,857		Tanaka et al.	06/29/1999	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	A6	JP	7-240691	A	Victor Co. of Japan	09/12/1995		Abs
	A7	JP	2000-68846	A	Sony Corp.	03/03/2000		Abs
	A8	JP	9-162744	A	Matsushita Electric Ind. Co. Ltd.	06/20/1997		Abs
	A9	JP	11-177431	A	Sony Corp.	07/02/1999		Abs

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.